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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,221	10/16/2001	Malcom D. Purbrick	81721HEC	5592

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EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 06/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/981,221

Applicant(s)

PURBRICK ET AL.

Examiner

Callie E. Shosho

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

**Priority**

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Great Britain on 11/9/2000. It is noted, however, that applicant has not filed a certified copy of the British application as required by 35 U.S.C. 119(b).

**Claim Rejections - 35 USC § 112**

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) Claim 1 recites an improper Markush group. It is suggested that either (i) in line 3 after "from" and before "aluminum", inserting the phrase "the group consisting of" or (ii) changing "and" to "or" in line 3 between "oxide" and "silica".

(b) A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by

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"such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

In the present instance, claim 4 recites the broad recitation "amount of inorganic oxide to polymeric crosslinking agent is from 500:1 to 15:1", and the claim also recites "preferably 250:1 to 20:1" which is the narrower statement of the range/limitation. Similar problems arise in lines 4 and 5 of the same claim.

**Claim Rejections - 35 USC § 102**

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4 and 8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by GB 2316890.

GB 2316890 discloses coating fluid for a coating on a support for use in ink jet printing comprising liquid medium having dispersed therein binder, i.e. polyvinyl alcohol, inorganic oxide such as silica or alumina, and polymeric crosslinking agent such as urea resin. There is also disclosed a process for preparing coated support and coated support having coating formed

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by applying the above coating fluid to a support. It is disclosed that there is present 5-12 parts polymeric crosslinking agent per 100 parts polyvinyl alcohol and 30-150 parts inorganic oxide per 50-70 parts polyvinyl alcohol and thus, it is calculated that the ratio of polyvinyl alcohol to polymeric crosslinking agent is 20:1 to 8.3:1 and the ratio of inorganic oxide to polyvinyl alcohol is 2.4:1 to 3:1. From example 4, it is calculated that the ratio of inorganic oxide to polymeric crosslinking agent is, for instance, approximately 16.7:1 (page 3, lines 8-12, page 4, lines 26-31, page 5, lines 23-24 and 33-34, page 7, lines 15-20, page 7, line 31-page 8, line 2, page 8, lines 21-25, and examples 1 and 4).

Although there is no explicit disclosure that the urea resin reacts with the silica, it is clear that the functional groups present on the urea resin will inherently react with the -OH groups present on the inorganic oxide.

In light of the above, it is clear that GB 2316890 anticipates the present claims.

6. Claims 1-2, 5, and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Sugai et al. (U.S. 5,562,975).

Sugai et al. discloses coating fluid for a coating on a support for use in ink jet printing comprising liquid medium having dispersed therein binder, 100 parts silica, and 1-70 parts polymeric crosslinking agent such as silanol modified polyvinyl alcohol which reacts with the silica. There is also disclosed a process for preparing coated support and coated support having coating formed by applying the above coating fluid to a support (col.2, line 43-51, col.3, lines 19-22, 31-39, and 64-67, col.4, lines 11-24, and col.5, lines 25-26).

In light of the above, it is clear that Sugai et al. anticipate the present claims.

7. Claims 1-3 and 5-9 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 976572.

EP 976572 discloses coating fluid for a coating on a support for use in ink jet printing comprising liquid medium having dispersed therein binder such as polyvinyl alcohol, silica, and polymeric crosslinking agent such as silanol modified protein which reacts with the silica. There is also disclosed a process for preparing coated support and coated support having coating formed by applying the above coating fluid to a support (page 2, lines 5-7, page 3, lines 3-6, 16-18, and 33-36, and page 4, lines 9-11).

Although EP 976572 discloses two fluids, i.e. (1) ink comprising silica which is printed onto support for use in ink jet printing which is coated with (2) composition comprising silanol modified protein and binder, given that the end result, after printing, is one coating fluid on the support comprising silica, silanol modified protein, and binder as presently claimed, it is clear that EP 976572 meets the limitations of the present claims.

In light of the above, it is clear that EP 976572 anticipates the present claims.

**Claim Rejections - 35 USC § 103**

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugai et al. (U.S. 5,562,975) in view of EP 976572.

The disclosure with respect to Sugai et al. in paragraph 6 above is incorporated here by reference.

The difference between Sugai et al. and the present claimed invention is the requirement in the claims of specific type of polymeric crosslinking agent.

EP 976572, which is drawn to coating fluid for a coating on a support for use in ink jet printing, discloses the equivalence and interchangeability of silanol modified protein, as

presently claimed, with silanol modified polyvinyl alcohol, as disclosed by Sugai et al., to react with silica and produce water resistant and durable images (page 2, lines 55-56 and page 3, lines 33-36).

In light of the disclosure of EP 976572, it therefore would have been obvious to one of ordinary skill in the art to use silanol modified protein in the coating fluid of Sugai et al., and thereby arrive at the claimed invention.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

EP 835752 discloses coating fluid for a coating on a support for use in ink jet printing, however, there is no disclosure of polymeric crosslinking agent containing functional groups for reaction with inorganic oxide as presently claimed.

Asano et al. (U.S. 6,511,736) disclose coating fluid for a coating on a support for use in ink jet printing wherein the fluid comprises binder, silica, and polymeric crosslinking agent, however, there is no disclosure of liquid medium as required in the present claims.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 703-305-0208. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone numbers for the



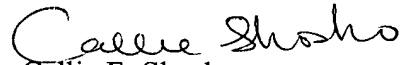
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organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

  
Callie E. Shosho  
Primary Examiner  
Art Unit 1714

CS  
June 6, 2003